



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/623,970	07/21/2003	Ulysses Gilchrist	390-011009-US (I01)	5343

2512 7590 01/25/2006

PERMAN & GREEN  
425 POST ROAD  
FAIRFIELD, CT 06824

EXAMINER

LOWE, MICHAEL S

ART UNIT	PAPER NUMBER
----------	--------------

3652

DATE MAILED: 01/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/623,970	Applicant(s) GILCHRIST ET AL.	
	Examiner M. Scott Lowe	Art Unit 3652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 10/28/05 & 9/9/05.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-11, 13-17, 19, 20, 22 and 24-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-11, 13-17, 19, 20, 22, 24-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/9/05, 9/29/03</u> | 6) <input type="checkbox"/> Other: _____  |

### ***Claim Objections***

Claim 10 is objected to because of the following informalities: line 3 states "and an is". For sake of examination it is assumed applicant meant to delete the "an". Appropriate correction is required.

Applicant stated that this had been corrected in his remarks submitted 10/28/05, however the claim does not appear to have been corrected.

### ***Double Patenting***

The terminal disclaimer filed on 9/9/05 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of prior patent number 6,869,263 has been approved. The terminal disclaimer has been recorded.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5,7-10,13, are rejected under 35 U.S.C. 102(b) as being anticipated by Mages (US 5,772,386).

Re claims 1,23,24, Mages teaches a substrate processing apparatus having a station for loading and unloading substrates from the apparatus, the station comprising:

Art Unit: 3652

an aperture closure 12,87 for sealing a loading and unloading aperture of the station; apparatus (figures 1,4-8,etc.) for removing a door 15 of a substrate magazine 6,46 and thus opening the substrate magazine 6 and for operating the aperture closure 12 to open the aperture; and  
an elevator 5,56 for precisely positioning the open substrate magazine 6 along a vertical axis within a usable range of motion.

Mages teaches a buffer transport 5,7,53,54,55 for positioning one or more substrate magazines 6 along a second axis (various) oriented in a second direction (various).

Mages teaches (figures 10,11) a shuttle 5,7,53,54,55 for transporting the one or more magazines 6 along a third axis (various) oriented in a third direction (various) different from the first and second directions.

Re claim 2, Mages teaches the elevator 5 operates such that a substrate within the open magazine 6 is positioned substantially in a wafer transport plane 10, the substrate processing apparatus further comprising a transport apparatus 22 for accessing the substrate in the wafer transport plane 10 through the aperture.

Re claim 3, Mages teaches the elevator 5 includes a device 5,11 for positioning the open substrate magazine 6 such that substantially no vertical movement is required by the transport apparatus.

Re claim 4, Mages teaches the first and second positions substantially coplanar with a plane that includes the second axis.

Re claim 5, Mages teaches at least one peripheral area and a central area (see figures, inherent also).

Re claim 7, Mages teaches the buffer transport 5,7 is operable to place the one or more magazines 6 in the at least one peripheral area (not numbered) and the central area (not numbered).

Re claim 8, Mages teaches the elevator 5 is operable to move the one or more magazines 6 placed in the central area.

Re claim 9, Mages teaches the station further comprises a sensor 21 for mapping vertical locations of the substrates.

Re claim 10, Mages teaches the sensor 21 is mounted to a frame (not numbered) of the station and capable of mapping the vertical location while the elevator is precisely positioning the open substrate magazine along the vertical axis.

Re claim 13, Mages teaches a mini-environment (not numbered, see figure 1, etc.) for interfacing the station to the substrate processing apparatus.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mages (US 5,772,386).

Re claim 11, Mages teaches the sensor 21 but is silent as to its mounting. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the sensor mounted in any equivalent known fashion and to any part of the device as long as it still could perform its function for aesthetic reasons.

Furthermore, on page 14, lines 17-19, applicant supports this rejection by stating "sensor 245 may be mounted in any orientation at any location so long as sensor 245 is capable of scanning substrates present inside magazine".

Claims 11, 14-17, 19-20, 22, 24-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mages (US 5,772,386) in view of Gordon (US 6,013,920).

Re claims 11, 14, 24, 16, Mages teaches a substrate processing apparatus having a station for loading and unloading substrates from the apparatus, the station comprising:

an aperture closure 12 for sealing a loading and unloading aperture of the station; apparatus (figures 1, 4-8) for removing a door 15 of a substrate magazine 6 and thus opening the substrate magazine 6 and for operating the aperture closure 12 to open the aperture; and

an elevator 5 for precisely positioning the open substrate magazine 6 along a vertical axis within a usable range of motion.

Mages teaches a sensor 21, that is also an encoder, mounted on the elevator 5 (through 3) for providing elevator vertical position information.

Mages teaches the sensor 21 but is silent as to its mounting. Gordon teaches a sensor 86, mounted to the magazine door drive 42 (48) for easily mapping vertical locations of the substrates (column 5, line 62 to column 6, line 9). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the sensor mounted to the magazine door drive 42 (48) for mapping vertical locations of the substrates or for aesthetic reasons.

Mages teaches a magazine door drive 12, 32 but does not state explicitly the type of drive. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the drive be any known drive, such a fluidic or pneumatic, in order to save the expense of developing a new type of drive.

Re claim 15, Mages as modified by Gordon teaches a through-beam sensor.

Re claims 17,20, Mages teaches the sensor 21 is mounted to a frame (not numbered) of the station and capable of mapping the vertical location while the elevator is precisely positioning the open substrate magazine along the vertical axis.

Re claim 19, Mages teaches the substrate locations are determined by recording the elevator vertical position information when the sensor 21 detects an individual substrate.

Re claims 22, Mages teaches the substrate locations are determined by processing the magazine door drive position information when the sensor 21 detects an individual substrate.

Re claim 25, Mages teaches a substrate buffer for temporary substrate storage.

Re claim 26, Mages teaches at least one peripheral area and a central area (see figures, inherent also).

Re claim 27, Mages teaches the buffer transport 5,7 is operable to place the one or more magazines 6 in the at least one peripheral area (not numbered) and the central area (not numbered).

Re claim 28, Mages teaches a mini-environment (not numbered, see figure 1, etc.) for interfacing the station to the substrate processing apparatus.

### ***Conclusion***

Applicant's arguments filed 9/9/05 have been fully considered but they are not persuasive.

The arguments regarding 35 U.S.C. 112, second paragraph are moot since the claims in question have been canceled.

Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references. Applicant merely states that the claims are different than what is found in the references.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was



within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Applicant argued that his disclosure was used to teach the encoder and the sensor mounting. The encoder is taught by Mages (see above rejection as well as the first office action) and the location would have been obvious to one of ordinary skill. That the location would have been obvious is further supported by applicant's disclosure when it states "sensor 245 may be mounted in any orientation at any location so long as sensor 245 is capable of scanning substrates present inside magazine". The Gordon reference confirms that location of the sensor was well known prior to applicant's filing.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

Art Unit: 3652


the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Scott Lowe whose telephone number is (571) 272-6929. The examiner can normally be reached on 6:30am-4:30pm M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eileen Lillis can be reached on (571) 272-6928. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

msl

  
**EILEEN D. LILLIS**  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600